100	Unknown in Middleburg Village. (6.)
2	Black shale. (5.)
21	(Black shale ?) judging by the surface. (4.)
2	Black slate. (3.)
15	Unknown. (2.)
	Helderburg Limestone. Half a mile below Middleburg, at grist mill. (Makes falls in the Schoharie.) (1.)

Section of the Palæzoic Rocks in Blair County, by Mr. Franklin Platt and Mr. R. H. Sanders, of the Second Geol. Surv. of Penna., in 1877.

(*Communicated to the American Philosophical Society, April* 19, 1878.)

The following section of the Palæzoic rocks, exposed in Blair County, was made by compiling the sections taken from the following points:

From the summit of the Allegheny Mountains at Bennington along the Pennsylvania Railroad to Altoona for XII, XI, X, IX, and VIII. At Frankstown for VII. At Hollidaysburg for VI. At McKee's Gap for V. At Tyrone and Spruce Creek Gaps for IV, III. From Spruce Creek to Tyrone Forges for II. The measurements are based on the railroad lines and from the topographical survey of Blair County.

From the Mahoning Sandstone to coal A is taken from report H H.

XII to VIII was measured by plotting on the railroad map the various cuts and measuring the rocks in each cut, and then projecting them over onto a section line. The projection of the various cuts onto the section line was most likely accompanied by a few errors but they would not make any material difference in the thickness.

The entire thickness of VII could not be measured at Frankstown, where the best exposure could be seen. A good measurement of VI was obtained at the "Chimney Rocks" at Hollidaysburg.

The measurement of V taken along the railroad cut at McKee's Gap gives a good measurement except the lower part which is concealed, and which should have the horizon of the "Frankstown" ore in it.

The Medina Sandstone shows best on the Pennsylvania Railroad, east of Spruce Beech Tunnel. The remainder of IV shows best in Tyrone Gap, but the rocks are crushed and the measurement is not reliable.

III a complete section of these slates do not show anywhere in the county.

II the thickness of these limestones and dolomites is taken from a carefully measured section along the Little Juniata from Spruce Creek to Tyrone Forges. R. H. Sanders.

345′	4″	XIII	Lower Productive Coal Measures.
223′	1″	XII	Pottsville Conglomerate.
283′		XI	Mauch Chunk Red Shale.
1,274′	4″	X	Pocono Sandstone.
2,560′		IX	Catskill Sandstone and Shale.
6,519′	2″	VIII	Chemung, Portage, Hamilton, Upper Helderburg
50′		VII	Oriskany Sandstone.
900′		VI	Lower Helderburg Limestones.
1,328′	3′	V	Clinton Red Shale.
2,365′	10″	IV	Medina and Oneida Sandstone.
900′		III	Hudson-River and Utica Slates.
6,600′		II and I (?)	Trenton, Calciferous and perhaps Pottsdam
23,348′			Palæzoic rocks exposed in Blair County.

Mahoning Sandstone.
2′ 8″ Coal bed.
20′ Drab slates.
5′ Olive shales.
10′ Massive slates.
20′ Olive slates and shales.
5′ 6″ Coal bed E.
2′ Impure fire clay.
20′ Sandstone and black slate.
3′ Limestone.
20′ Ferruginous slates and shales.
20′ Sandstone and sandy shales.
3′ Coal bed D[1].
1′ Fire-clay.
21′ Sandstone, drab.
20′ Black slate.
2′ 10″ Coal bed D.
11′ Drab slates holding ore balls.
0′ 7″ Sandstone.
13′ Blue slates.
15′ Sandstone, massive, drab.
12′ 6″ Slate.
6″ Coal } Bed C.
6″ Slate }
1′ 8″ Coal }
6′ Fire-clay.
12′ Sandstone.
1′ 3″ Slate.
0′ 4″ Coal.
7′ Sandstone.
8′ 10″ Black slate, with calamites.
3′ 6″ Coal bed B.
3′ Fire-clay.
29′ Shales.
2′ Black slate.
1′ 8″ Coal bed A[1].
23′ Slates.
4′ Sandstone, gray.
4′ Coal bed A.
9′ Fire-clay.
Total.....345′ 4″
14′ SS., coarse grained iron stained.
0′ 1″ Coal.
9′ Fire clay.
4′ Slaty sandstone.
15′ Fine grained grayish white SS.
81′ Massive white sandstone.
100′ Concealed.
Total, XII.....223′ 1″
110′ Red shale.
40′ Gray slate.
5′ Red shale.
12′ Gray slate.
2′ Red slate.
4′ Fine grained sandstone.
6′ Red slate.
4′ Greenish gray slate.
6′ Red shale.
2′ Gray slate.
52′ White and grayish-white coarse grained sandstone.
10′ Gray slate.
5′ Red slate.
10′ Gray sandstone.
10′ Red shale.
Total XI.....283′
2′ Gray shale.
200′ Gray sandstone.
3′ Red shale.
334′ Massive gray sandstone.
20′ Dark gray slates.
266′ Massive gray sandstone.
15′ Olive-gray sandstone.
20′ Red shale.
60′ Gray sandstone.
40′ Gray slate.
30′ Gray sandstone.
5′ Greenish-gray slate.
2′ Gray sandstone.
10′ Gray slate.
15′ Massive gray sandstone.
5′ Brown shale.
20′ Red shale and slate.
15′ Brown sandstone.
5′ Gray slate.
20′ Red shale and slate.
20′ Massive gray sandstone.
29′ Red shale.
11′ Gray sandstone.
10′ Gray slaty sandstone.
17′ Brown slaty sandstone.
10′ Red shale.
1′ Gray micaceous sandstone.
1′ Iron ore, greenish-gray.
0′ 1½″ Gray micaceous sandstone.
1′ 9″ Iron ore, greenish-gray.
26′ Massive gray sandstone.
5′ Red slate.
1′ 6″ Iron ore, greenish-gray.
14′ Gray micaceous thin bedded SS.
1′ Ferruginous sandstone.
38′ Gray sandstone.
7′ Gray slate.
3′ Red slate.
1′ Brown sandstone.
2′ Red slate.
15′ Gray slate.
16′ Gray sandstone.
5′ Red shale.
7′ Red slate.
45′ Gray sandstone.
Total, X.....1,274′ 4″
9′ Red shale.
3′ Gray shale.
15′ Red shale.
12′ Brown sandstone.
25′ Red shale.
20′ Gray sandstone.

25′ Red shale.
196′ Concealed.
Red sandstone.
167′ Concealed.
30′ Brown shale.
50′ Brown sandstone.
35′ Red shale with three small layers of olive shale.
30′ Brownish-gray sandstone.
10′ Gray slaty sandstone.
30′ Reddish-brown sandstone.
3′ Red shale.
20′ + Yellowish-gray sandstone.
264′ Concealed and reddish sandstone and slate.
6′ Gray shale.
50′ Red shale and sandstone.
10′ Gray slaty sandstone.
265′ Red shale and sandstone.
20′ Red sandstone,
10′ Red shale.
15′ Red sandstone.
15′ Red shale and sandstone.
15′ Red sandstone.
80′ Red shale.
305′ Concealed.
15′ Gray shale.
14′ Red SS., with some gray shale.
10′ Red shale.
10′ Red and gray shale.
2′ Gray shale.
4′ Red sandstone.
15′ Red slate with some gray SS.
20′ Gray shale.
70′ Red shale.
5′ Gray sandstone.
40′ Red shale.
15′ Reddish-brown sandstone.
60′ Red shale with layers of gray sandstone.
25′ Gray sandstone with red shale; small layers of gray shale.
40′ Gray sandstone and slate.
480′ Concealed.

Total, IX.....2560′

20′ Red slate with gray sandstone, mostly sandstone.
40 Gray slates.
20′ Gray sandstone.
3′ Gray slate.
20′ Gray sandstone.
40′ Gray slate.
90′ Gray sandstone and slate, with a slight reddish tinge.
40′ Gray sandstone and slate.
410′ Concealed.
192′ Gray slate.
8′ Gray sandstone.
10′ Light gray slate.
1′ Gray sandstone.
8′ Dark gray slates.
10′ Gray sandstone.
86′ Dark gray slates and concealed.
15′ Dark gray slates.
1′ Gray sandstone.
50′ Gray slates.
2′ Gray sandstone.
4′ Gray slate.
10′ Gray sandstone.
0′ 2″ gray slate.
1′ Gray sandstone.
70′ Gray slate.
300′ Concealed.
20′ Gray slate.
260′ Slaty sandstone.
20′ Gray shale.
30′ Gray sandstone and slates, thin bedded.
505′ Concealed.
50′ Gray sandstone thin bedded with slate.
460′ Gray slate with thin layers of gray sandstone.
50′ Gray slate.
50′ Concealed.
35′ Gray slate with a few layers of gray sandstone.
50′ Gray slate, cleavage planes iron stained.
780′ Concealed, mostly gray slates.
185′ Olive and gray slates with 10′ red slates.
5′ Red slates.
418′ Gray slate and sandstone.
75′ Slaty sandstone and gray slate.
10′ Gray sandstone.
100′ Gray slates, some of the slates have ripple marks.
600′ Gray slaty sandstone, thin.
1365′ Gray and black slates, the black slates are the lowest thickness not known.

Total, VIII.....6519′ 2″

50′ ± Sandstone, coarse grained, some conglomerate. The thickness cannot be measured at any place in the county.

Total, VII.....50′.

900′ Limestone, not all exposed, mostly a dark blue massive limestone.

Total, VI.....900′.

120′ Gray slaty limestone.
30′ Concealed.
60′ Gray slate with some limestone.
5′ Dark gray slate.
14′ Slaty limestone.
1′ Limestone.

3′ Gray slate.
26′ Red shale.
1′ Gray slate.
0′ 10″ Limestone.
5′ Gray slate.
0′ 6″ Green shale.
1′ Red shale.
1′ Gray shale.
14′ Red shale.
5′ Gray slate.
1′ Impure limestone.
5′ Dark brown slate.
2′ Olive gray slate.
7′ Red slate.
45′ Gray slate with some small layers of limestone.
1′ 9″ Fossiliferous dark blue lime.
1′ 6″ Gray slate.
0′ 6″ Limestone.
4′ Gray slate.
0′ 2″ Limestone.
30′ Olive slate.
3′ Limestone.
3′ Gray slate.
2′ Limestone.
6′ Gray slate.
2′ Red shale.
3′ Olive shale.
6′ Red shale.
2′ Green shale.
3′ Red shale.
2′ Olive shale.
6′ Red shale.
5′ Gray shale.
30′ Gray slate and concealed.
50′ Concealed. Fossil ore.
20′ Gray slate.
30′ Concealed.
30′ Brown slate.
640′ Concealed. Frankstown fossil ore in this interval.

Total V, 1328′ 3″.

100 ± White sandstone.
255′ Red sandstone with layers of red slate from 6″ to 5′ thick.
84′ Massive red sandstone.
1′ 8″ Green slaty sandstone.
87′ Red sandstone with a few layers of red shale.
0′ 6″ Green slate.
10′ Red sandstone.
5′ Red shale.
5′ Green slate.
5′ Red sandstone.
20′ Gray sandstone.
1′ Red shale.
10′ Gray sandstone.
0′ 6″ Red shale.
10′ Red sandstone.
15′ Grayish-red sandstone.
1′ Red slate.
1′ 6″ Green slate.
15′ Gray sandstone.
1′ Gray slate.
20′ Brown sandstone.
1′ Gray slate.
8′ Brown sandstone.
0′ 6″ Red shale.
75′ Reddish-brown sandstone.
1′ Red slate.
200′ Red and gray sandstone.
9′ Red sandstone.
4′ Red shale.
2′ Red sandstone.
3′ Red slate.
1′ Green slate.
4′ Red slate.
2′ Green slate.
6′ Red sandstone.
15′ Red sandstone (some gray).
10′ Red sandstone.
2′ Gray slate.
18′ Red sandstone.
0′ 5″ gray slate.
12′ Grayish-brown sandstone.
0′ 3″ Red shale.
20′ Brown sandstone.
0′ 2″ Green shale.
4′ Brown sandstone.
1′ Red shale.
150′ Brown and gray sandstone and concealed.
409′ Concealed and gray sandstone.
320′ Gray sandstone.
440′ Gray sandstone and slaty SS.

Total, IV.....2365′ 10″

900′ Slates, gray and black, they do not show in any place in the county.

Total, III.....900′

5400′ Limestone, dark blue, blue, and gray.
40′ ± White sandstone, some of it iron-stained.
1160′ Limestone, towards the bottom comes in slates and SS.

Total, II & I (?).....6600′